Updates on the treatment and prevention of perianaesthetic nausea and gastro-oesophageal reflux

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Learning Outcomes:

1. Describe the mechanistic pathway of gastro-oesophageal reflux (GOR) in small animals.
2. Describe the humoral and neural pathways of vomiting in small animals.
3. Summarise and apply the described treatments for GOR and nausea in the peranaesthetic period of small animals.

Peri-anaesthetic gastro-oesophageal reflux (GOR) and nausea can have significant impact on both patient comfort and successful outcome following an anaesthetic procedure.

Peri-anaesthetic gastro-oesophageal reflux (GOR) is commonly reported in veterinary small animal patients. A common cause of morbidity in small animal practice, varying reported incidences of GOR ranging from less than 5% to more than 50% of anaesthetised animals. Complications reported from peri-anaesthetic GOR include aspiration pneumonia, oesophagitis and oesophageal stricture formation, with the potential for mortality. The underlying mechanisms, and consequently the application of preventative strategies and treatment, are multifactorial and complex. A number of risk factors have been identified in varying contexts, though there is not yet a clear elucidation of the interaction between these factors, nor how best to reduce these risks. For instance, a commonly-cited recent report described a decreased GOR occurrence when using a short fasting period prior to anaesthesia administration (Savvas, Raptopoulos, and Rallis 2016), though other findings do not support this (Viskjer and Sjöström 2017). Moreover, the logistics of applying such fasting periods in small animal practice may not be practical. An increased risk of GOR occurrence has been associated with a number of factors including the procedure type, duration, position changes, patient factors including breed and body type along with the anaesthetic management technique and protocol used. Furthermore, the true incidence of GOR is unclear given the common development of silent GOR and definition discrepancies, as evidenced by the wide range of incidences
reported. If GOR has been identified or is suspected to have occurred in an anaesthetised patient, treatment focuses on reducing oesophageal injury and reducing the probability of further episodes (Wilson and Evans 2007). The body of literature has predominantly investigated canine patients, though recent studies have also investigated feline patients with an incidence of GOR in cats of 33% (Garcia et al. 2017). The current literature on peri-anaesthetic GOR in the small animal patient will be reviewed, including the evidence and clinical application of proposed preventative and treatment measures.

Nausea and vomiting are also very commonly seen in the small animal patient, however, unlike GOR, the attempts to reduce the incidence or severity is aimed primarily to improve peri-anaesthetic patient comfort. The incidence of peri-anaesthetic vomiting is often reported in the context of specific pharmacologic agent administration, opioids for example, with the incidence of peri-anaesthetic nausea less investigated (Brioschi et al. 2018). Until recently the veterinary literature has focused on GOR and its associated risk factors, though further investigation into peri-anaesthetic nausea and vomiting is appearing, albeit often linked with the occurrence of GOR. Human patients experiencing post-operative nausea and vomiting is one of the most common causes for post-anaesthesia dissatisfaction. Nausea and vomiting are common occurrences in the peri-anaesthetic period of small animals, with a negative impact on patient comfort and post-anaesthetic care with the potential for increased morbidity, delayed discharge and consequent increased expense. The vomiting pathway has both humoral and neural inputs and a number of neurotransmitters and systemic and environmental conditions can influence the occurrence of vomiting. The understanding of these processes aids in the successful reduction via pharmacological means. The use of commonly available antiemetic agents including maropitant and metoclopramide will be discussed, along with novel approaches to reduce the incidence of vomiting and nausea such as the use of acupuncture (Scallan and Simon 2016).
References:


